1600

RAW SEQUENCE LISTING   DATE: 05/09/2003
PATENT APPLICATION: US/09/839,577A   TIME: 08:48:50

        Input Set : A:\PTO.AMC.txt
        Output Set: N:\CRF4\05092003\I839577A.raw

 4 <110> APPLICANT: Hahn, Klaus M.
 5   Toutchkine, Alexei
 6   Muthyala, Rajeev
 7   Kraynov, Vadim
 8   Burton, Dennis R.
 9   Chamberlain, Chester
10   The Scripps Research Institute et al.

ENTERED

12 <120> TITLE OF INVENTION: Labeled Peptides, Proteins and Antibodies and Processes and
Intermediates
13   Useful for their Preparation
15 <130> FILE REFERENCE: 1361.007US1
17 <140> CURRENT APPLICATION NUMBER: US 09/839,577A
18 <141> CURRENT FILING DATE: 2001-04-20
20 <150> PRIOR APPLICATION NUMBER: US 60/279,302
21 <151> PRIOR FILING DATE: 2001-03-28
23 <150> PRIOR APPLICATION NUMBER: PCT/US00/26821
24 <151> PRIOR FILING DATE: 2000-09-29
26 <150> PRIOR APPLICATION NUMBER: US 60/218,113
27 <151> PRIOR FILING DATE: 2000-07-13
29 <160> NUMBER OF SEQ ID NOS: 15
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 44
35 <212> TYPE: PRT
36 <213> ORGANISM: Homo sapiens
38 <400> SEQUENCE: 1
39 Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp Phe
40 1   5   10   15
41 Glu His Thr Ile His Val Gly Phe Asp Ala Cys Thr Gly Glu Phe Thr
42   20   25   30
43 Gly Met Pro Glu Gln Trp Ala Arg Leu Leu Gln Thr
44   35   40
46 <210> SEQ ID NO: 2
47 <211> LENGTH: 16
48 <212> TYPE: PRT
49 <213> ORGANISM: Artificial Sequence
51 <220> FEATURE:
52 <223> OTHER INFORMATION: A synthetic peptide.
54 <400> SEQUENCE: 2
55 Ala Lys Ala Ala Arg Ala Ala Ala Ala Lys Ala Ala Arg Ala Cys Ala
56 1   5   10   15
58 <210> SEQ ID NO: 3
59 <211> LENGTH: 6
60 <212> TYPE: PRT

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```
         61 <213> ORGANISM: Artificial Sequence
         63 <220> FEATURE:
         64 <223> OTHER INFORMATION: A synthetic peptide.
W--> 66 <221> NAME/KEY: SITE
         67 <222> LOCATION: 3
         68 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
         69        Methylaminooxy
         70        Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH].
W--> 72 <221> SITE
         73 <222> LOCATION: 6
         74 <223> OTHER INFORMATION: Xaa = MPAL = The C-terminal mercaptopropionyl-leucine group
generated by
         75        cleavage of a peptide from TAMPAL resin.
W--> 77 <400> 3
W--> 78 Leu Tyr Xaa Ala Gly Xaa
         79 1                   5
         81 <210> SEQ ID NO: 4
         82 <211> LENGTH: 5
         83 <212> TYPE: PRT
         84 <213> ORGANISM: Artificial Sequence
         86 <220> FEATURE:
         87 <223> OTHER INFORMATION: A synthetic peptide.
         89 <400> SEQUENCE: 4
         90 Cys Arg Ala Asn Lys
         91 1                   5
         93 <210> SEQ ID NO: 5
         94 <211> LENGTH: 10
         95 <212> TYPE: PRT
         96 <213> ORGANISM: Artificial Sequence
         98 <220> FEATURE:
         99 <223> OTHER INFORMATION: A synthetic peptide.
W--> 101 <221> NAME/KEY: SITE
        102 <222> LOCATION: 3
        103 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
        104        Methylaminooxy
        105        Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH]
W--> 107 <400> 5
W--> 108 Leu Tyr Xaa Ala Gly Cys Arg Ala Asn Lys
        109 1                   5                   10
        111 <210> SEQ ID NO: 6
        112 <211> LENGTH: 33
        113 <212> TYPE: PRT
        114 <213> ORGANISM: Artificial Sequence
        116 <220> FEATURE:
        117 <223> OTHER INFORMATION: A synthetic peptide.
        119 <400> SEQUENCE: 6
        120 Cys Glu Tyr Arg Ile Asp Arg Val Arg Leu Phe Val Asp Lys Leu Asp
        121 1                   5                   10                  15
        122 Asn Ile Ala Gln Val Pro Arg Val Gly Ala Ala His His His His His
        123                 20                  25                  30
```

RAW SEQUENCE LISTING   DATE: 05/09/2003
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Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF4\05092003\I839577A.raw

```
124 His
127 <210> SEQ ID NO: 7
128 <211> LENGTH: 33
129 <212> TYPE: PRT
130 <213> ORGANISM: Artificial Sequence
132 <220> FEATURE:
133 <223> OTHER INFORMATION: A synthetic peptide.
135 <400> SEQUENCE: 7
136 Cys Glu Tyr Arg Ile Asp Arg Val Arg Leu Phe Val Asp Lys Leu Asp
137 1               5                   10              15
138 Asn Ile Ala Gln Val Pro Arg Val Gly Ala Ala His His His His His
139             20                  25              30
140 His
143 <210> SEQ ID NO: 8
144 <211> LENGTH: 28
145 <212> TYPE: PRT
146 <213> ORGANISM: Artificial Sequence
148 <220> FEATURE:
149 <223> OTHER INFORMATION: A synthetic peptide.
```
W--> 151 **<221> NAME/KEY: SITE**
```
152 <222> LOCATION: 1
153 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
154     Methylaminooxy
155     Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH]
```
W--> 157 **<221> SITE**
```
158 <222> LOCATION: 28
159 <223> OTHER INFORMATION: Xaa = MPAL = The C-terminal mercaptopropionyl-leucine group
generated by
160     cleavage of a peptide from TAMPAL resin.
```
W--> 162 **<400> 8**
W--> 163 **Xaa Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp**
```
164 1               5                   10              15
165 Phe Glu His Thr Ile His Val Gly Phe Asp Ala Xaa
166             20                  25
168 <210> SEQ ID NO: 9
169 <211> LENGTH: 18
170 <212> TYPE: PRT
171 <213> ORGANISM: Homo sapiens
173 <400> SEQUENCE: 9
174 Cys Thr Gly Glu Phe Thr Gly Met Pro Glu Gln Trp Ala Arg Leu Leu
175 1               5                   10              15
176 Gln Thr
179 <210> SEQ ID NO: 10
180 <211> LENGTH: 10
181 <212> TYPE: PRT
182 <213> ORGANISM: Artificial Sequence
184 <220> FEATURE:
185 <223> OTHER INFORMATION: A synthetic peptide.
```
W--> 187 **<221> NAME/KEY: SITE**
```
188 <222> LOCATION: 3
```

RAW SEQUENCE LISTING   DATE: 05/09/2003
PATENT APPLICATION: US/09/839,577A   TIME: 08:48:50

Input Set : A:\PTO.AMC.txt
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```
        189 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
Methylaminooxy
        190      Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH]
W--> 192 <400> 10
W--> 193 Leu Tyr Xaa Ala Gly Cys Arg Ala Asn Lys
        194  1           5               10
        196 <210> SEQ ID NO: 11
        197 <211> LENGTH: 45
        198 <212> TYPE: PRT
        199 <213> ORGANISM: Artificial Sequence
        201 <220> FEATURE:
        202 <223> OTHER INFORMATION: A synthetic peptide.
W--> 204 <221> NAME/KEY: SITE
        205 <222> LOCATION: 1
        206 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
Methylaminooxy
        207      Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH]
W--> 209 <400> 11
W--> 210 Xaa Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp
        211  1           5               10              15
        212 Phe Glu His Thr Ile His Val Gly Phe Asp Ala Cys Thr Gly Glu Phe
        213             20              25              30
        214 Thr Gly Met Pro Glu Gln Trp Ala Arg Leu Leu Gln Thr
        215             35              40              45
        217 <210> SEQ ID NO: 12
        218 <211> LENGTH: 38
        219 <212> TYPE: PRT
        220 <213> ORGANISM: Artificial Sequence
        222 <220> FEATURE:
        223 <223> OTHER INFORMATION: A synthetic peptide.
W--> 225 <221> NAME/KEY: SITE
        226 <222> LOCATION: 3
        227 <223> OTHER INFORMATION: Xaa = SAOD = alpha-Boc-beta[N-(2-Chlorobenzyloxycarbonyl)-N-
Methylaminooxy
        228      Acetyl]-alpha,beta-Diaminopropionic Acid [Boc-2-Cl-Z-(SA)Dapa-OH]
W--> 230 <400> 12
W--> 231 Leu Tyr Xaa Ala Gly Cys Glu Tyr Arg Ile Asp Arg Val Arg Leu Phe
        232  1           5               10              15
        233 Val Asp Lys Leu Asp Asn Ile Ala Gln Val Pro Arg Val Gly Ala Ala
        234             20              25              30
        235 His His His His His His
        236             35
        238 <210> SEQ ID NO: 13
        239 <211> LENGTH: 120
        240 <212> TYPE: PRT
        241 <213> ORGANISM: Homo sapiens
        243 <400> SEQUENCE: 13
        244 Asp Ile Gln Asn Pro Asp Ile Thr Ser Ser Arg Tyr Arg Gly Leu Pro
        245  1           5               10              15
        246 Ala Pro Gly Pro Ser Pro Ala Asp Lys Lys Arg Ser Gly Lys Lys Lys
        247             20              25              30
        248 Ile Ser Lys Ala Asp Ile Gly Ala Pro Ser Gly Phe Lys His Val Ser
```

```
249         35                  40                  45
250 His Val Gly Trp Asp Pro Gln Asn Gly Phe Asp Val Asn Asn Leu Asp
251     50                  55                  60
252 Pro Asp Leu Arg Ser Leu Phe Ser Arg Ala Gly Ile Ser Glu Ala Gln
253 65                  70                  75                  80
254 Leu Thr Asp Ala Glu Thr Ser Lys Leu Ile Tyr Asp Phe Ile Glu Asp
255                     85                  90                  95
256 Gln Gly Gly Leu Glu Ala Val Arg Gln Glu Met Arg Arg Gln Glu Pro
257             100                 105                 110
258 Leu Pro Pro Pro Pro Pro Ser
259         115                 120
262 <210> SEQ ID NO: 14
263 <211> LENGTH: 502
264 <212> TYPE: PRT
265 <213> ORGANISM: Homo sapiens
267 <400> SEQUENCE: 14
268 Met Ser Gly Gly Pro Met Gly Gly Arg Pro Gly Gly Arg Gly Ala Pro
269 1               5                   10                  15
270 Ala Val Gln Gln Asn Ile Pro Ser Thr Leu Leu Gln Asp His Glu Asn
271             20                  25                  30
272 Gln Arg Leu Phe Glu Met Leu Gly Arg Lys Cys Leu Thr Leu Ala Thr
273         35                  40                  45
274 Ala Val Val Gln Leu Tyr Leu Ala Leu Pro Pro Gly Ala Glu His Trp
275     50                  55                  60
276 Thr Lys Glu His Cys Gly Ala Val Cys Phe Val Lys Asp Asn Pro Gln
277 65                  70                  75                  80
278 Lys Ser Tyr Phe Ile Arg Leu Tyr Gly Leu Gln Ala Gly Arg Leu Leu
279             85                  90                  95
280 Trp Glu Gln Glu Leu Tyr Ser Gln Leu Val Tyr Ser Thr Pro Thr Pro
281             100                 105                 110
282 Phe Phe His Thr Phe Ala Gly Asp Asp Cys Gln Ala Gly Leu Asn Phe
283         115                 120                 125
284 Ala Asp Glu Asp Glu Ala Gln Ala Phe Arg Ala Leu Val Gln Glu Lys
285     130                 135                 140
286 Ile Gln Lys Arg Asn Gln Arg Gln Ser Gly Asp Arg Arg Gln Leu Pro
287 145                 150                 155                 160
288 Pro Pro Pro Thr Pro Ala Asn Glu Glu Arg Arg Gly Gly Leu Pro Pro
289             165                 170                 175
290 Leu Pro Leu His Pro Gly Gly Asp Gln Gly Gly Pro Pro Val Gly Pro
291             180                 185                 190
292 Leu Ser Leu Gly Leu Ala Thr Val Asp Ile Gln Asn Pro Asp Ile Thr
293             195                 200                 205
294 Ser Ser Arg Tyr Arg Gly Leu Pro Ala Pro Gly Pro Ser Pro Ala Asp
295     210                 215                 220
296 Lys Lys Arg Ser Gly Lys Lys Lys Ile Ser Lys Ala Asp Ile Gly Ala
297 225                 230                 235                 240
298 Pro Ser Gly Phe Lys His Val Ser His Val Gly Trp Asp Pro Gln Asn
299             245                 250                 255
300 Gly Phe Asp Val Asn Asn Leu Asp Pro Asp Leu Arg Ser Leu Phe Ser
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 05/09/2003
PATENT APPLICATION: US/09/839,577A   TIME: 08:48:51

Input Set : A:\PTO.AMC.txt
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; Xaa Pos. 3,6
Seq#:5; Xaa Pos. 3
Seq#:8; Xaa Pos. 1,28
Seq#:10; Xaa Pos. 3
Seq#:11; Xaa Pos. 1
Seq#:12; Xaa Pos. 3

Invalid Line Length:
The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:10; Line(s) 189
Seq#:11; Line(s) 206
Seq#:12; Line(s) 227

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/839,577A**

DATE: 05/09/2003
TIME: 08:48:51

Input Set : **A:\PTO.AMC.txt**
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```
L:66 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:72 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:77 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:78 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:101 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:107 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:108 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:151 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:157 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:162 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
M:341 Repeated in SeqNo=8
L:187 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:192 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:204 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:209 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:225 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:230 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
```